

CLAIMS

1. A method for producing hydrogen by contacting water, steam or gas containing steam with iron or iron oxide, wherein the iron or iron oxide is added with at least one first metal of Rh, Ir, Ru, Pd, Pt and Os and at least one second metal of Ti, Zr, V, Nb, Cr, Mo, Al, Ga, Mg, Sc, Ni and Cu, and the amount of the added first metal and the amount of the added second metal added to iron or iron oxide, measured in molarity of the metallic atom, are between 0.1 and 30 mol % of all the metallic atoms, respectively.
2. A method for producing hydrogen by contacting water, steam or gas containing steam with iron or iron oxide, wherein the iron or iron oxide is added with at least one metal of Rh, Ir, Ru, Pd, Pt and Os and at least one metal of Ti, Zr, Nb, Cr, Al, Ga, Mg, Sc and Cu.
3. A method for producing hydrogen according to claim 1 or 2, wherein the addition of metal is done by means of coprecipitation method.
4. Apparatus for supplying hydrogen characterized in that it comprises a portable cassette accommodating a hydrogen producing medium therein and providing with at least two means for mounting pipings:  
the hydrogen producing medium comprises iron or iron oxide as main element and at least one first metal of Rh, Ir, Ru, Pd, Pt and Os added thereto and at least one second metal of Ti, Zr, V, Nb, Cr, Mo, Al, Ga, Mg, Sc, Ni and Cu added thereto; the amount of the added first metal and the amount of the added second metal added to iron or iron oxide, measured in molarity of the metallic atom, are between 0.1 and 30 mol % of all the metallic atoms, respectively; and  
the cassette is capable of being added with water or steam through one of the piping mounting means, and is capable of supplying hydrogen generated by decomposing water to hydrogen consuming device through the other piping mounting means.

5. Apparatus for supplying hydrogen characterized in that it comprises a portable cassette accommodating a hydrogen producing medium therein and providing with at least two means for mounting pipings:

the hydrogen producing medium comprises iron or iron oxide as main element and at least one metal of Rh, Ir, Ru, Pd, Pt and Os and at least one metal of Ti, Zr, Nb, Cr, Al, Ga, Mg, Sc and Cu added thereto;

the cassette is capable of being added with water or steam through one of the piping mounting means, and is capable of supplying hydrogen generated by decomposing water to hydrogen consuming device through the other piping mounting means.